

## Original Paper

### Tech-advancement Vs. Online Sexual Activities Country-wise:

### Market Economic Assessment under Welfare Analysis

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#### **Abstract**

*Internet is a blessing for humankind where one can have all good-things rather bad-things from it. It is easy to get stuck into dark-&-ugly world of civilization with just a click to online-sexual-activities—Pornography and Online-live-sex. Besides emotional-problems, it has linkages with today's high-rise-rate of divorce, rape, family-conflicts in society country-wise such as Bangladesh. For policy-guidance, this study analyses basic issues of Online-sex-market in terms of marginal-damage analysis under neoclassical partial equilibrium demand-supply theory. It further analyses the reasons of disparity between social-cost and private-cost by conventional marginal-damage analysis. Findings show that because of online-sex-activities, marginal social-costs are higher than marginal private-costs. Continuation of increasing it in Bangladesh, results a higher welfare-loss incurred from higher social-costs. Because of its high rise demand due to continuation of rising per-capita-income and having easy-access to supportive-factors, prices of services are becoming upward-trends, which dominate producer-surplus. Service-providers generate high revenues and consumers face high market-prices, which create higher deadweight-losses. Thus, there is an urgency for national policy-design. Probable-policies can advance in three-folds a) how to quit online-sex b) how to perform treatment of online-sex-addiction and c) how to prevent newcomers. Besides having effective-monitoring, raising awareness and engaging public, Internet-companies & officials, calling for Conferences may play significant-roles country-wise.*

**Keywords**

*Online-sex-activities, porn-consumption, online-live-sex, Internet dilemma, Tech-advancement, Tech-externalities, welfare analysis*

**1. Introduction**

In 1960's, the internet itself jointed as an important platform and an integral part of the modern human society country-wise and since then it has been growing slowly but steadily. In this slow phase advancement globally, online internet was legalized in Bangladesh on June 4<sup>th</sup> of 1996 and the same day one Internet Service Provider (ISP), the Information Services Network (ISN), started working. Within one and a half months, Grameen Cyber Net started service on July 15<sup>th</sup> of 1996 (Grameen Cybernet Ltd., 1996). Slowly but steadily by increasing accesses to ICTs, the internet has become the universal source of information for people - in homes, at work and businesses in Bangladesh. This Tech-advancement particularly mobile technologies such as smartphones have increased the reach of the internet, thereby increasing the number of internet users (Rajani et al., 2004). Overall, the government policies & efforts for digitized Bangladesh has eased by widespread increased of Internet access.

It is obvious that internet is a blessing for the humankind. The past days imaginations have turned into the reality with the blessing of internet-led-science. Having said that just like any coin, everything has good and bad where one can be able to have all good things from the internet. In *contrast* it is quite easy to get stuck into one dark & ugly world of civilization with just to click to online-sexual-activities—*Pornography* and *Live-online-sex*. So, today's Tech-advancement in usages have both positively and negatively contributed to human society country-wise such as Bangladesh (Rahman, 2022c). Here negatively contribution means opportunities of misusing the Tech-advancement. Today, information can be accessed from the remote corners of the world for the benefits of an individual, business organizations, agencies etc. for the society. However, access to harmful materials that eases online sexual activities that are in a competitive market, which has become equally easy access where users sometime use it for its own satisfaction or gains. There are buyers & seller - *service-providers* who face market prices for the output—*online-sex-activities*. In this market, demand and supply are decided based on bargaining market-prices where transaction takes place when both buyer & supplier agree to it. In other words, when the market reaches to equilibrium price, the transaction takes place. So, this market has eased or created new-way online sexual activities in human society where advance payments are made in general by mobile-led banking-services. Sometime some companies use pornography for promoting its products or services in multi-faucets where these *scenarios* in Bangladesh are no exception.

The world is watching porn, a lot of it. And in year 2021, Pakistan appeared on the top of countries where people are chilling out with porn (The Indian Times, 2021). As the Indian Times reported (2021),

the top 10 porn watching countries in the Entire World are 1. Pakistan 2. Egypt 3. Vietnam 4. Iran 5. Morocco 6. India 7. Saudi Arabia 8. Turkey 9. Philippines and 10. Poland. As porn hub reported (2015), the United States of American stands top when it comes porn hub based on proportion of worldwide traffic where Belgium stands the last.

It is reasonable claiming that Bangladesh has appeared as a country of the list but not on the top of the list yet. However, current trends of rapes, divorce, family-conflicts and not-divorced-but-living separately are growing faster where city areas are dominating the trends (Rahman, 2019a). Also, trends of wage-earners' families are falling in parts.

That raises questions: how do the Tech-advancement and its missuses particularly Online-sex-activities such as porn-consumption & online-live-sex fit-in in market economy? How can the usages of Tech-advancement and Online-sex be elaborated in terms of market demand and supply model? Does Tech-advancement cause externalities in today's human-society country-wise such as Bangladesh? What would be the policy-recommendations aiming to curtail the magnitudes of the problem?

Answering the questions posed, this study first uses demand-supply model capturing roles of the input and output in markets relate to Tech-advancement and *Online-sex-porn-consumption & online-live-sex* using Theory of Consumer Choices & Behaviors. It then uses welfare analysis detecting externalities arise from misuse of Tech-advancement and then for policy recommendations curtailing the magnitudes of these externality costs.

## 2. Importance of the Study

It is obvious that by increasing access to Information and Communication Technology (ICTs), the internet has become the universal source of information in today's world. It can also ease accessing to multi-faucets platforms for amusement for millions of people if they relate to internet and have portable device such as smart phones.

Trends of Internet-users in Bangladesh, as of December of 2021, there were total Internet subscribers 123.82 million (BTRC, 2021) where 113.73 million were Mobile Internet and ISP & PSTN combined were 10.09 million. There were 52.58 million internet users in Bangladesh in January 2022. Bangladesh's internet penetration rate stood at 31.5 percent of the total population at the start of 2022. Kepios analysis indicates that internet users in Bangladesh increased by 5.5 million, which was more than 11.6 percent between 2021 and 2022 (Datareportal.com, 2022).

These advancements have both positively and negatively contributed to human society country-wise where Bangladeshi society is no exception. For example, the complicated subject area such as health science information can easily be accessed from remote corner of the world. On the same token, access to harmful materials such as pornography and online-live-sex have become easier than before.

Today addiction to online-sex activities namely pornography & online-live-sex are alarming phenomenon. Pornography contents are almost everywhere of websites hidden on blogs, even on social

media etc. As reported in the Financial Express Newspaper, according to porn starts 2018 editions, 28,258 users are watching porn per second in Bangladesh and 1 in 5 mobile searches is for pornography (Mamun, 2019).

Addressing the alarming numbers, the Government of Bangladesh recently crack down pornography sites with order to block access to thousands of sites (Bangla Tribune, 2019). Although the government efforts have lowered the bandwidth used to watch porn, 40 percent before, a total of 21 percent of the bandwidth is still in use for it as per Internet Service Providers Association Bangladesh (ISPAB).

There is no specific data statistics relates to online-live-sex currently in hand. However, it has been going on around us daily. These are the opinions of people we have talked to about it. That raises question how does the online-sex market work?

### **3. New Way Online-sex in Today's Tech-driven World**

It is obvious that sexuality is in continuous development and evolution throughout entire life cycle of creations. However, it is recognized society-wise that during adolescence and young adulthood time-period, there is an increased awareness of sexuality owing to the integration of different cognitive, emotional, and social dimensions (Sullivan et. al., 2015). Accordingly, in the past, pornography was characterised by being difficult to access for below 18 years of age, with a low supply and high cost, and public exposure of those who consumed or business with it. Nowadays, the changing technological context and new pornography widely distributed on the Internet through different channels open to the public in most case. Some cases customer need to sign-up, which might cost. It makes access easier by including anonymity (Hardy et al., 2019), thereby overcoming the abovementioned limitations and generating new forms of production and consequences for consumers.

The new generation of pornography has certain defining characteristics (Hardy et al., 2019) They are: a) increased image quality b) attainable and largely for free c) easily accessible and d) it is in usages without boundaries. What is more, it is found that this new pornography related to two social phenomena. They are a) patriarchal culture that has not allowed the development of free and equal sexuality and b) the capitalism culture, which turns sexual intercourse and the people who practice it into objects of consumption.

It is not limited there. Today there are online-live-sex market. Because of online, this market is automatically open to all ages, body types and styles. Most online sex workers are women, an increasing number of men are also doing it, as are plenty of trans and non-binary people. In this market, there are buyers and sellers or service-providers. In practice, they recognise or call each other friend, boyfriend or girlfriend, lover etc. In the market, they attract each other by sharing pornography, which is becoming a common practice among people who enjoy it from both ends. In this market system, sometimes it goes further. This online live-sex mainly goes on between some young male and female where they use WhatsApp or BOTIM for calls or Video calls as a media and show each other's

private-parts. In some cases, it is done in market system where customer pays to service-providers using mobile-led digital-banking services. Some cases, there are assigned agents who help either the customer or the service-provider to find other party for their private time, i.e., business thru online. Here the market price or cost is assessed based on bargain where some cases assigned agent plays role. The agent is paid by the buyer or seller depends on who uses the agent in this online-live-sex market. Most cases payment is made in advance. Some interviewees reveal that the agent promotes it as they call it “Shopnopuri” (in English, “Dream House”) where it has entry fees, which is needed to be paid to the agent.

These are no different from prostitution business except these are online and it does not have government registration as a prostitution business must have by law. That is a registered prostitution holds active registration issued by governments in many countries such as Bangladesh. Despite Constitution provides that the “State shall endeavour to prevent gambling and prostitution” prostitution is legal in Bangladesh (Wikipedia, 2022). In Bangladesh, Vagrancy laws are sometimes used against prostitutes, and they were detained in shelters indefinitely (Wikipedia, 2022). However, in 2000, the Bangladeshi High Court ruled that the detention of over 100 prostitutes arrested in brothel raids was unlawful, and that prostitution is a legal occupation (BBC News, 2010; Wikipedia, 2022).

The government initiatives to block online-sex, particularly pornography website has proved to futile exercise due to lack of technological knowledge & concerted efforts from the state agencies (The Daily Star, 2020). With this effort, it has blocked 22,000 porn sites in the last three years. But statistics shows it had little effort on Bangladeshi internet users (The Financial Express 2022), despite the fact that the country has very rigid law titled: *Pornography Control Act 2012*. The law clearly says preservation, distribution, selling, displaying, and advertising pornographic content is a punishable offense. That raises question: what about Online-live-sex? Nothing has been mentioned in this line in the current law. However, addiction to online sex is on the rise (The Financial Express, 2019). Thanks to easy internet access through smart phones. Internet services that are having promotional different plans & sizes offer by the internet companies, which can ease all level of income holders to access to it.

We must not be forgotten in today’s Tech-driven world that the access to Internet services and Smart phones facilitate being a part of online-sex. Thus, it appears that many business organisations are integrating themselves directly or indirectly in this market for its own business interests in economy country-wise where Bangladesh is no exception.

For example, the Internet service providers have many options where low-size internet-user customers to large-size internet-user customers can take advantages using the Internet where besides the size limitations, this service is attached with expiration date. Also, there are unlimited services too. As the Daily Star Newspaper reported (2022), Internet users rise in March Fueled by mobile data and broadband services for educational, entertainment and professional purposes, despite the fact that currently there is limited online class in academic institutions in Bangladesh. The number of

Internet-users gained 7.31 percent year-on-year in March to reach 12.48 crore, according to the latest data of the Bangladesh Telecommunication Regulatory Commission (BTRC) (The Daily Star, 2022). On a month-to-month basis, the growth was 1.71 percent, which means there were about 21 lakhs more customers connected to the internet in March compared to that in February of 2022. It shows mobile internet users accounted for about 13 lakhs, taking their total number up to 11.39 crore, while broadband users increased by 8 lakhs to 1.09 crore where young generations have dominated the trends in Bangladesh.

This growth of Internet usage in Bangladesh logically suggests that the trends of porn-consumption & online-live-sex have been growing in Bangladesh. This is because Bangladesh is a high prevalence country of sexually transmitted diseases, particularly among commercial sex workers (Alam, 2009). *Secondly*, online sex market is more secured & private in multi-facets than going to a prostitution physically. *Thirdly*, the current 4G LTE wireless broadband is 10 times faster than 3G, which can handle download speeds between 5 and 12 Mbps and upload speeds between 2 and 5 Mbps, with peak download speeds approaching 50 Mbps. It can help overcoming the slowdown transferring or downloading large files.

Thus, the rising of the trend of today's online-sex is unprecedented *scenarios* in interpersonal relationships among young people in Bangladesh (Kibria, 2019; The Financial Express, 2022).

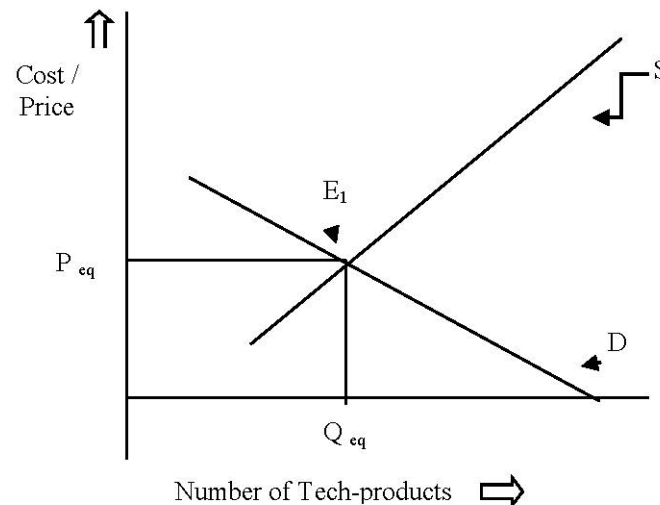
#### **4. Markets for Tech-products and Online-sex**

Two basic terms used most often by economists in microeconomics are supply and demand. The market is a way in which an economic activity is organized between buyers and sellers through their behaviours and interactions with another where a place is not always a necessary to call it market (Rahman, 2019a). In some cases, a middleman or assigned agent say assigned by service-provider may play roles in market on finding a buyer. Every action undertaken by an individual or business organization in market economy will either directly or indirectly affect the welfare of other nonconsenting parties (Rahman, 2019). This third-party effect, generally called externalities. Thus, today's Tech-advancement is no free from externalities in market-economy country-wise such as Bangladesh. Accordingly, the Tech-advancement has created *at least* two markets. They are Tech-products market and Tech-externalities market, which is known as online-sex market where the presence of buyers and sellers are undeniable. For better understanding of the referred market, let us describe the Tech-products and online-sex markets separately.

##### **4.1 Market for Tech-products**

In today's Tech-driven world, marketing economics is the science of markets including product, pricing, promotion, payment and availability of demand or order from buyer and supply from seller where a place is not necessarily to be there (Rahman, 2019a). Marketing is often viewed as an art that includes social elements such as influencing and creative elements such as design, technology etc. Thus,

technology itself is a tool, not a product. This is because a tool that helps achieving something. But it cannot be useful unless there are availability of Tech-products or Tech-inputs such as a) a good smartphone b) a laptop c) headphones d) mechanical keyboard e) a portable charger for smart phone f) Internet g) an extended hard disk drive h) a DSLR Camera etc. Thus, it can be said that a product is something we can sell.



**Figure 1. Market for Tech-products**

D = Demand for products of Tech-advancement such as Internet, Smart phone

P = Price of Internet (Wi-Fi line, price per Mbps or package

C = Cost for the services including charges for Internet

$E_1 \rightarrow$  Intersection of D-S = Number of phone set / Internet services

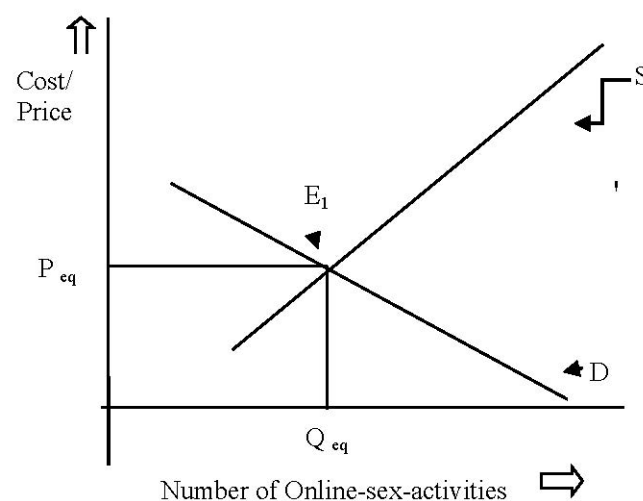
$Q_{eq}$  = Number of products corresponding to equilibrium point

#### 4.2 Market for Online-sex-activities

On the other, Online sex such as porn-consumption and online-live-sex are outputs, which have three components namely the intentions of the service-provider, the consumer or user and contextual judgement (Ashton et al., 2019; Rahman, 2022c). For further clarity Ashton et al., (2019) identified implications for pornography of new technology in many folds such as a) expanded opportunities for access & content b) interaction & immersion enabled by virtual reality, c) “pornification” of culture and d) challenges to the meaning of consent presented by self-produced content. It can be distinguished from material produced and distributed without user’s consent. Also, in today’s world, pornography is a material that considers sexual, given the context, which has the primary intention of sexually arousing the consumer or user and is produced and distributed with the consent of all persons involved (Ashton

et al., 2019).

What about online-live-sex? Yes, it is an output where service provider or an agent collect the money using digital-banking services *particularly* mobile-banking services. In this case, both buyer and service-provider make them available *via* Internet where payment is made in advance, in most cases. Sometime chatting & interacting using video call. Sometime just chatting online where no one see each other. The cost or price for the second option is cheaper than that for the first option in general. It is a market of bargaining price for services. Once the buyer and service-providers agree to it, the transaction takes place.



**Figure 2. Market for Online-sex-activities**

D = Demand for service-provider / online-sex

P = Price or charges for online-sex offer by service-provider

C = Cost for the services including charges for Internet

$E_1 \rightarrow$  Intersection of D-S = Number of times display private parts

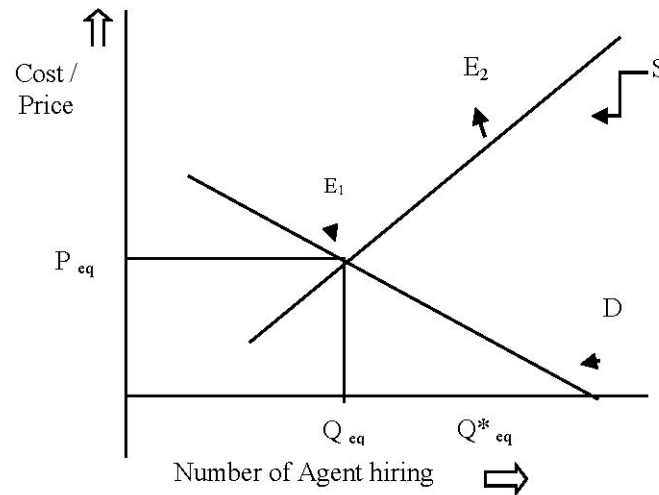
$Q_{eq}$  = number of times display private parts corresponding to equilibrium point

#### 4.3 Market for Hiring Agent

In most cases, the agents are appointed by service-providers in sex-market. These appointees have access to seller or service-providers' information as it is needed to connect with buyer of the service. The agent knows well the service-providers' availability, contact information and the amount of fees the service-provider charges for "Shopnopuri" based on time-period the buyer wants to stay connected with. In some cases, the agent may take advantages in this negotiation. In most cases, the agent may make phone calls in presence of a probable buyer for ensuring authenticity. Some cases it may be operated internationally. In cases, buyer's number is not familiar to the service-provider, then agent gets



involved. Besides this, agent promotes “Shopnopuri” for finding new customers. For similar tasks, an agent may also be used by the buyer for finding service-provider.



**Figure 3. Market of Agents**

D = Demand or contact number of Agent

P = Price or charges for each Agent's services

C = Cost for Agent-services

$E_1 \rightarrow$  Intersection of D-S = Number of Agent chosen by the buyer or seller

$Q_{eq}$  = Number of Agent corresponding to equilibrium point

## 5. Methodology on Conducting Welfare Analysis

The basic methodologies used in this study are Marginal Damage Analysis and the Standard Partial Equilibrium Models. This paper assumes

- i. Online-sex is externality of the Tech-progression. It causes social problem, especially, online-sex concentrated today in today's tech-driven society. So, the quality of the society is priced like a regular public good.
- ii. There are  $n$  competitive markets for the online-sex free human-society in this Tech-progression
- iii. Rivalry exists in case of the consumer preference for online-sex free society
- iv. The changes in online-sex level caused by misused of Tech-progression and the change in demand for online-sex free society can be changed by implementing strict laws, proper education etc.

These all assumptions ensure that the aggregate demand for online-sex-free society can be viewed as a negatively sloped schedule of the demand for improved social conditions at various prices holding

income and tastes being constant.

These assumptions also ensure that the aggregate supply curve could be drawn as a positive sloped function, holding other prices, cost, and Tech-progression unchanged. Given the assumptions, the “n” demand functions of Bangladeshis for improved Tech-driven society, are the function of “n” prices which are completely figured out. In other words, Bangladesh can be considered as a single market for quality of the society in this tech-driven world.

The concept of consumer surplus is used to capture consumer welfare changes resulting from a price change in Tech-products. The Marshallian demand curve is used to approximate change although the Hicksian demand curve would be theoretically better. However, the difference between Marshallian measurement and Hicksian measurement is not important if the following three conditions are satisfied (Pindyck et al., 2012; Marshall, 1895):

- 1) Identical consumer when it comes online-sex free being a part of the society
- 2) There is only one price change in one market and
- 3) Since Tech-products are products of manufacturing, the income effect is small. If these conditions are met, then the observed demand behavior can be used to construct a measure of welfare change.

The assumption of “n” identical consumers approximates Bangladeshis where the “traditional match up behavior” makes consumption patterns homogeneous (Pindyck, 2012; Marshall, 1895)

Therefore, for a single price change, the percentage of error resulting from using Consumer Surplus (CS) in the order of  $CY/2M$  which is likely to be small ( $CY$  = consumer income,  $M$  = consumer’s constant income.). So, in the static partial equilibrium model, the size of the inefficiency of the efforts for strict policies for internet use/demand for ensuring better-ness of society and supply system can be measured by the deadweight loss.

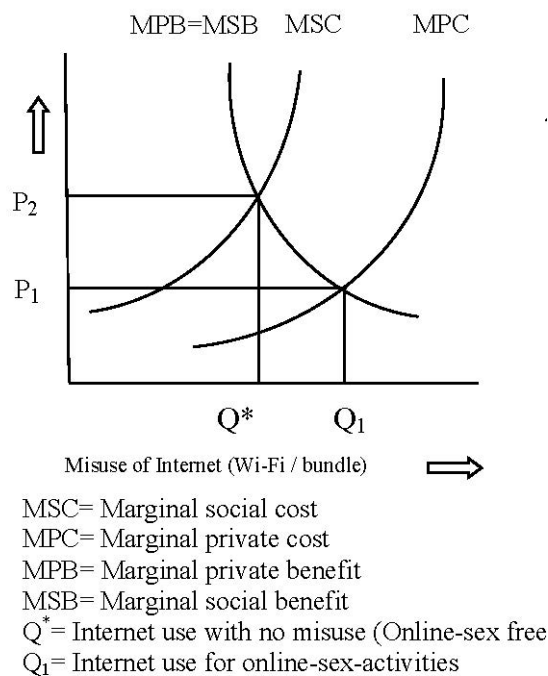
## **6. Externalities of Tech-advancement in Bangladesh: Market Economic Assessment under Welfare Analysis**

Considering the problem of online-sex in Bangladesh from Tech-progression into this framework, we can present the problem in Fig 1. Let us assume that Tech-progression “A” produces  $Q_1$  number of products such as Internet, Smartphone etc. This production generates input costs which are costs for both producer and society. In addition, there is a set of costs evolved from divorce, rape, family-life struggle in society etc. which have linkage to online-sex generated by this Tech-progression as well as for lack of strict policies stopping online-sex (Rahman, 2019a). People of Bangladesh now swallow this cost not by Tech-progression companies “A”. This situation creates a divergence between private and social costs that are also shown in Fig. 1.

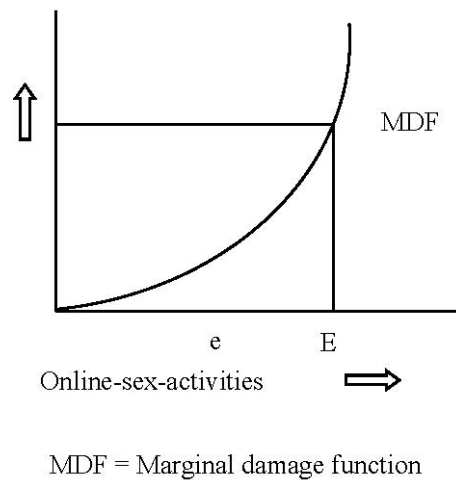
Here social cost includes more costs consisting of the damages in society because of ongoing online-sex or misuse of Tech-products such as Internet. It has direct linkages with today’s high-rise

trends of divorces, rapes, family-life conflicts etc. (Rahman, 2019a) while producing Tech-products where some users misuse it. In Fig. 1,  $Q_1$  number products or Mbps of Internet are misused corresponding to Marginal Private Cost (MPC) equal to marginal private benefit (MPB). This  $Q_1$  is greater than socially optimal level of output  $Q^*$  corresponding to Marginal Social Cost (MSC) equal to Marginal Social Benefit (MSB).

The excess cost (EC) =  $(Q_1 - Q^*) * (P_2 - P_1)$  stands for the cost to Bangladeshis for having this higher level of output than optimal level. Considering all Tech-products such as Internet services or usages in Bangladesh, the total excess cost is  $EC_{BD} = n * (Q_1 - Q^*) * (P_2 - P_1)$ . This is considered as the total damages, that is, online-sex market generates from n number of users by social problems such as high-rise divorce, rapes etc. in Bangladesh. In Fig. 5, the area e stands for total damages in Bangladesh online.



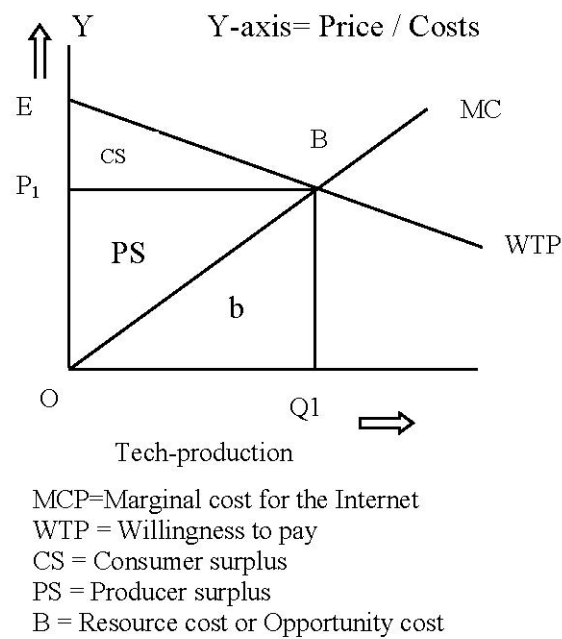
**Figure 4. Market Failure when Internet is Free from Regulation on Issues of online-sex-activities**



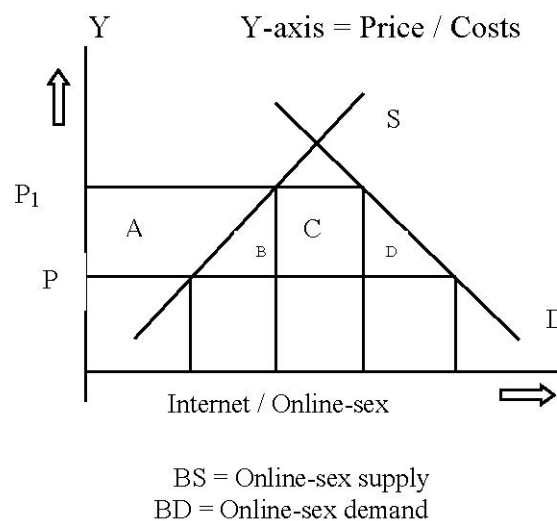
**Figure 5. Online-sex-activities**

The total resource costs for Tech-progression are examined in Fig 3. Here resource cost associated with  $Q_1$  is area  $OBQ_1$ . Area  $OP_1BQ_1$  stands for the benefit gained by Bangladesh society from having the resources used in 'n' in Bangladesh. Area  $OQ_1B$  stands for opportunity cost. Here, net value = area  $OBE$ ,  $PS = P_1OB$  and  $CS = EP_1B$ . Considering Fig 1,  $Q^*$  Mbps of Internet guarantees Bangladeshis uses for good purposes, i.e., not for online-sex. But they will have to spend as a whole  $n * (P_2 - P_1)$ . The welfare loss for this higher cost is shown in Fig. 7.

In this case, the changes in price cause changes in CS. Price changes from  $P_1$  to  $P_2$  causes CS drops equal to the area  $(A+B+C+D)$ . On the other hand, PS increases by area A which directly goes to Internet company. Area B stands for variable input cost. Area  $(C + D)$  is "deadweight" usages loss because consumers give this expenditure away from now more expensive  $Q_1$  number of Internet usages. It can also be represented as Bangladeshi's real income loss for having online-sex free society. It is note here that the relative size of  $(C + D)$  depends on the size of the induced price change and the price elasticity of supply and demand.



**Figure 6. Cost for Providing Services**



**Figure 7. Welfare Aspect of Total Internet with Misuse for Online-sex-activities**

## 7. Policy Recommendations Addressing the Issue

Online-sex is just the symptom of a deeper problem in society. It has been causing psychological problem among users, which has linkages to high-rise of rape cases and high-rise divorce rate in society country-wise. Scientific studies found that an increase in online-sex to be linked to an increase

in depressive and psychosomatic symptoms among adolescents (Gassó et al., 2021). It can affect intimate relationships, anxiety, self-esteem, sexual orientations and expectations and overall life satisfaction. Also, violence against women and girls was increasing in Bangladesh due to easy accessibility to online-sex on the internet (New Age Bangladesh, 2022).

The time has come now to address the online sex as a new drug. The recent statistics of school goers' addiction to it are worrying the parents and the society. Therefore, the policymakers should take it seriously as a wakeup call as well as be prompt addressing the issue as an underlining to things like lack of social skills, anxiety and find out the probable solution without further delay.

### 7.1 Policy Design

Speaking about designing policies, economics play significant roles. While Tech-advancement externality create social-problems and violation of *Pareto* efficiency, the pecuniary externalities such as *scenario* of government policies restricting facilitations of necessary for efficient operation of Tech-uses markets. This distinction is therefore of the utmost importance in the conduct of policy. Thus, despites clear distinction between Tech-progression and pecuniary externalities in production, no such clear distinction is currently present with respect to externalities in Tech-usages or promotional efforts for enhancing Tech-usages in Bangladesh. That raises questions: how should the government-policy look like?

The probable policies should address the issue in three folds. They are a) how to quit online-sex b) how to perform treatment of online-sex addiction and c) how to prevent newcomers. It may begin with provision of opening counselling services. Secondly, provision of inspiring religious places delivering messages on consequences of online-sex here and hereafter. *Thirdly*, provision on incorporating into academic curriculum for behavioural changes based on ethics, morality and consequences on own actions including online sex. *Fourthly*, guide the people who need it most on "how to quit online-sex addiction". *Lastly*, having strict policies of Tech-advancement uses without having windows of creating externalities such as online-sex-activities.

### 7.2 Guidance on Overcoming Online-sex addictions: How to Quit?

Talking about addiction to anything, we need to know first how we call it as an addiction. To declare as an addition in case of online-sex, two symptoms can be seen. They are—any person who has a) an uncontrollable desire to watch porn at any time of the day and b) in any space *especially* where it might not be considered right, the person might have an online-sex addiction. Recognizing online-sex addiction is tricky as there is no official diagnosis for it. Also, there is a thin line between people who have a healthy desire to consume online-sex and people who are addicted.

Thus, the following guidance can be vital to individual who wants to quit online-sex addiction in today's Tech-driven world

- 1) Individual must acknowledge addiction exists within him / her
- 2) Individual must recognize what s/he is doing is wrong

- 3) Individual must not blame other for own addiction problem
- 4) Individual must make self-accountable to spiritual authority
- 5) Individual must recognize that “will power” is not the answer
- 6) Individual may study the word of God concerning sexual purity
- 7) Individual must quit friendship with whom s/he has this relationship
- 8) Individual must learn to flee temptation
- 9) Individual should give self-time to work through the process of recovery
- 10) Individual must approach his / her addiction one day at a time

### **8. The Current Effort: How to Motivate Policymakers for Policy-adoption Addressing the Issue?**

The current effort is to bring the issue to policymakers’ attentions so that proposed new policies can be introduced country-wise such as Bangladesh without undermining the Tech-advancement. It can reduce the number of rapes & divorces and marginalize the magnitudes of conflict of family-life or conjugal-life in society country-wise such as Bangladesh.

Addressing the urgency needs for national strategies and policy actions, the Government of Bangladesh recently crack down pornography sites with order to block access to thousands of sites (Bangla Tribune, 2019). The government’s efforts have lowered the bandwidth used to watch porn. However, a total of 21 percent of the bandwidth is still in use for it as per Internet Service Providers Association Bangladesh (ISPAB). Besides taking into cases or complains in legal court system, the government has invested no effort addressing today’s online-live-sex, which has culminated to be a market for services where everyone has access to it.

With further progressive approach by the government, it would not be unreasonable to ask: can policymakers of a nation play role for better-ness of its modern-human-society in aim to meet the challenges?

The answer to the question posed is, YES, where efforts of relevant industries or news-media can play significant roles in spreading message, which can be inspirational to policymakers sooner than further delays. Besides these traditional organizations, roles of academic institutions are crucial for conducting Academic Conferences or International Research Conferences for promoting the following

- a) Needs rapid efforts for monitoring roles and policies of internet companies on issues whether it has any linkages with the issue so that people use more internet.
- b) Raising awareness and engaging the public, officials, and policymakers in support of policy-designs underpinning slogan “we can do better for the society as a whole” which can promote online-sex-free society without undermining the Tech-advancement in Bangladesh.
- c) Inspiring internet companies in Bangladesh or globally for hosting conferences on the issue where roles of United Nations Organization (UNO) might be crucial in practice in case of global efforts.

## 9. Directions for Future Studies

If research grants are available, multi-facets studies can be conducted examining the possibility of use of Tech-advancement without externality such as online-sex. Survey data can be collected from management, employees, and different level of people in Bangladesh. Factor Analysis and hypothesis development & testing can be conducted so that the expected findings can be educational enhancing monitoring approaches for meeting the challenges. The future study can be *at least* in two directions. They are

- a) Since there are two types of customers when it comes online-sex. They are a) adverse-customers and advantages customers. A survey study can be conducted on what percentages are in each category. The findings can be helpful understanding the probable effects to the Internet services
- b) Conducting empirical study can be helpful about the trends of online-sex consumption country-wise such as Bangladesh. On this aspect, separate trends such as porn-consumption and online-live-sex can be comparison on policy design

## 10. Conclusion

It is obvious that internet is a blessing for the humankind. The past days imaginations have turned into the reality with the blessing of internet-led-science country-wise such as Bangladesh. Having said that just like any coin, everything has good and bad where one can be able to have all good things from the internet. In *contrast* it is quite easy to get stuck into one dark & ugly world of civilization with just to click to online-sexual-activities—a market of *Pornography* and *Live-online-sex*, which externalities of Tech-advancement. So, today's Tech-advancement in usages have both positively and negatively contributed to human society country-wise such as Bangladesh. Here negatively contribution means opportunities of misusing the Tech-advancement. In has created externalities—*online-sex-activities*—a new-way online sexual activities in a market-system where there are buyers and service-providers. Addressing the issue for-policy guidance, this study analyses the basic issues of online-sex-facilitations in terms of Marginal Damage (MD) analysis and the neoclassical partial equilibrium demand & supply theory. It further analyses the reasons of disparity between social and private cost by conventional marginal damage analysis. So, the findings can be useful as guidance in policy design in Bangladesh. Findings show that because of online-sex-activities, the marginal social costs are higher than marginal private (service-provider) costs. In other words, service-providers are benefiting with the expense of Bangladeshi society. Continuation of increasing online-sex-activities in Bangladesh, it results higher welfare loss incurred from higher social costs. Also, because of high rise demand of online-sex due to continuation of rising per capita income and other supportive factors, cost/prices of services are becoming upward trends, which have been dominating the increases of producer surplus (PS) in Bangladesh. Because of online-sex, the service-providers are generating more revenues where



consumers face higher charges or prices, which creates higher deadweight losses. Therefore, there is an urgency for national strategies and policy designs for online-sex-activities free Tech-advancement in society country-wise such as Bangladesh. The probable policies should address the issue in three folds. They are a) how to quit online-sex b) how to perform treatment of online-sex addiction and c) how to prevent newcomers. On policy design aspects, besides a need for effective monitoring, raising awareness, engaging public, Internet companies etc. and officials and calling for International Conferences on the issue where UNO may play significant roles country-wise.

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### References

- Alam, M. K. (2009). *Girls Prostitution Is Booming in Bangladesh*. ScienceBlog.com. Retrieved from <https://scienceblog.com/28053/girls-prostitution-is-booming-in-bangladesh/>
- Amy, N. (2022). 6 Kinky Ways to Make Money Online, Wealth of Geeks. *BTRC* (<http://old.btrc.gov.bd>). Retrieved from <https://wealthofgeeks.com/kinky-ways-to-make-money-online/>
- Ashton, S., Karalyn, Mc., & Maggie, K. (2019). What does “pornography” mean in the digital age? Revisiting a definition for social science researchers, February 2019. *Porn Studies*, 6(3), 1-25. DOI: 10.1080/23268743.2018.1544096
- Asjadul, K. (2019). Online porn addiction on the rise. *The Financial Express*. Retrieved from <https://thefinancialexpress.com.bd/views/online-porn-addiction-on-the-rise-1546617117>
- Bangla, T. (2019). *When porn stars make their way to Bangla exam papers*, reported by Fazlur Rahman Raju. Retrieved from <https://en.banglatribune.com/others/news/40913/When-pornstars-make-their-way-to-Bangla-exam>
- Bangladesh Data Report. (2022). Internet users increased by 5.5 million (+11.6 percent) between 2021 and 2022. Retrieved from Digital 2022: Bangladesh - DataReportal <https://datareportal.com/reports>
- BBC News. (2000). Bangladesh says prostitution legal. *BBC News*, 14 March 2000.
- BTRC—Bangladesh Telecommunication Regulatory Commission. (2021). *Internet Subscribers in Bangladesh 2021*. Retrieved from <https://www.btrc.gov.bd/telco/internet>
- Chowdhury et al. (2018). Does the addiction of Online pornography affect the behavioral pattern of undergraduate private university students in Bangladesh. *International Journal of Health Sciences*, 12(3). Retrieved from website: [IJHS.org.sa](http://IJHS.org.sa)

- Chowdhury, M. T. M. (1996). Grameen Cyber Net comes forward to supply Internet service. *Computer Jagat*, 6(3), 36-37.
- Datareportal.com. (2022). *Internet use in Bangladesh in 2022*. Retrieved from [https://datareportal.com/reports/digital-2022-bangladesh#:~:text=Internet%20use%20in%20Bangladesh%20in%202022&text=Bangladesh's%20internet%20penetration%20rate%20stood,percent\)%20between%202021%20and%202022](https://datareportal.com/reports/digital-2022-bangladesh#:~:text=Internet%20use%20in%20Bangladesh%20in%202022&text=Bangladesh's%20internet%20penetration%20rate%20stood,percent)%20between%202021%20and%202022)
- Gassó, A. M., & Bruch-Granados. (2021). A. Psychological and Forensic Challenges Regarding Youth Consumption of Pornography: A Narrative Review. *Adolescents*, 1, 108-122. <https://doi.org/10.3390/adolescents1020009>
- Grameen Cybernet Ltd. (1996). *The Grameen Cybernet Formation for Easy Access to Internet Technology for People of Bangladesh, A Report Issued by Grameen Cybernet Ltd*. Retrieved from <https://www.citechco.net/company>
- Hardy, S. A, J., Hurst, J. P., & Denton, M. (2019). The Socialization of Attitudes about Sex and Their Role in Adolescent Pornography Use. *Journal of Adolescence*, 72. 70-82. DOI:10.1016/j.adolescence.2019.02.007
- Hasan, M. (2022). *Internet users rise in March*, *The Daily Star*, Mon May 9, 2022. Retrieved from <https://www.thedailystar.net/business/telecom/news/internet-users-rise-march-3019261>
- Indian Times Ray Souvik. (2021). *Top 10 Most Porn Watching Countries in the World: India on third, Reported by Souvik Ray Updated on Sep 09, 2021, 12:04 IST*. Retrieved from <https://www.indiatimes.com/news/world/india-3rd-most-porn-watching-country-in-the-world-up-from-4th-last-year-249212.html>
- Kibria, A. (2019). Online porn addiction on the rise. *The Financial Express*. Bangladesh.
- Mamun, K. (2019). Battling Porn, a New Drug. *The Financial Express*.
- Marshall, A. (1895). *Principles of Economics* (3rd ed.). Macmillan and Co., New York.
- New Age Bangladesh. (2022), Pornography incites violence against women: Staff Report. Retrieved from <https://www.newagebd.net/article/166904/pornography-incites-violence-against-women-report>
- Pindyck, R., & Daniel, R. (2012). *Microeconomics*. Pearson Publisher.
- Porn hub. (2015). *Porn Hubs Top 20 Countries, 2015 Year in Review, Porn Hub*. Retrieved from <https://www.indiatimes.com/news/world/india-3rd-most-porn-watching-country-in-the-world-up-from-4th-last-year-249212.html>
- Rahman, A. (2019). *Microeconomics Basics—New Way Learning Microeconomics in the 21<sup>st</sup> Century Era*. ISBN: 978-0-9557163-0-0, Academic Textbook, Print Your Books Academic Publishing, Dhaka 1000, Bangladesh. Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3649850](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3649850)

- Rahman, A. (2019a). Theory of Divorce: Can a Marriage Be Saved? *Prime University Journal*, 13(2), 61-83, July-December, ISSN: 1995-5332, Prime University, Dhaka 1216, Bangladesh. Retrieved from [https://www.researchgate.net/publication/344726213\\_Theory\\_of\\_Divorce\\_Can\\_a\\_Marriage\\_Be\\_Saved](https://www.researchgate.net/publication/344726213_Theory_of_Divorce_Can_a_Marriage_Be_Saved)
- Rahman, A. (2021b). Women—the Best of Creatures in World: Are They Upholding the Premise? *Journal of Economics and Behavioral Studies*, 13(6), 1-11, December 2021, ISSN: 2220 6140, UAE. Retrieved from <https://ojs.amhinternational.com/index.php/jeb/article/view/3213>
- Rahman, A. (2022c). Technological Advancement Vs. High Rise Porn-Consumption Vs. Psychological Impacts. *Psychology and Psychotherapy Research Study*, 5(5). PPRS. 000624. 2022. Retrieved from <https://crimsonpublishers.com/pprs/pdf/PPRS.000624.pdf>
- Rahman, A. et al. (2009). Opinions of Business Students on the Ethics of Tax Evasion at the American International University-Bangladesh (AIUB): A Comparative Study. *AIUB Faculty Journal*, 1(1), Spring Semester.
- Rajani M., & Chandio, M. (2004). *Use of Internet, and its effects on our Society, National Conference on Emerging Technologies*. Karachi, Pakistan
- Sullivan, R. et.al. (2015). *Pornography: Structures, Agency, and Performance*. Cambridge: Polity Press.
- The Daily Star. (2020). *Pornography spreads amid futile govt ban, reported by Md Shahnawaz Khan Chandan, published on December 24 of 2020*.
- The Financial Express. (2021). *New Tech Trends to push Bangladesh towards more knowledge-based economy, Published: February 9<sup>th</sup>*.
- Tohan D. L. et al. (2014). APA Handbook of Sexuality and psychology. *Contextual Approaches*, 2. Washington, D.C., American Psychology Association.
- Wikipedia. (2010). Retrieved from [https://en.wikipedia.org/wiki/Prostitution\\_in\\_Bangladesh](https://en.wikipedia.org/wiki/Prostitution_in_Bangladesh)
- Ybarra, M. L., & Mitchell, K. J. (2005). Exposure to internet pornography among children and adolescents: A national survey. *Cyberpsychology Behavior*, 8, 473-486.